

Name Middle - performing Block Date 4-11-11

Earth Science Web quest

Directions: Answer each of the following questions on a separate sheet. Make sure to skip lines as you write down the answers and that the answers are in complete sentences
Part 1 → Click on **Plate Movement/ earthquake and volcanoes** ON **Mrs. McNamara's page website**

1. Click on "Maps." Check the boxes for boundaries, volcanoes, earthquakes, hotspots and velocities. What correlations do you see? What seems to have no relationship?
2. Click on "Motion." Move the plates to see how they have changed over time. What do the black lines represent? How about the green areas
3. Click on "Details."
 - a. What is oceanic-continent subduction? What is a continental volcanic arc and what are some examples?
 - b. What is a continent-continent collision? What are some examples?
 - c. What is ocean-ocean subduction? What are some examples?
 - d. What is a continental rift? What are some examples?
 - e. What is a midocean ridge? How is it like a conveyor belt?
 - f. What is a continental transform? What is an example?
 - g. What is an oceanic transform?
 - h. What are oceanic hot spots? What are some examples?
 - i. What are continental hot spots? What are some examples?

Part 2 → Click on **"Interactive Volcano" on Mrs. McNamara's website**

1. Click on Global Perspective. What are tectonic plates?
2. Click on "Ring of Fire" (bottom right corner). What is the "Ring of Fire"?
3. Click on "Layers Within." What are they?
4. Click on "Volcano Types." What are the 3 types of volcanoes? Describe each type.
5. Click on "Inside a volcano." Draw a picture of the inside of a volcano and label the different parts.
6. Click on "Build your own volcano and watch it erupt." How do viscosity and gas factor in volcanoes?
7. Click on "viscosity info". What is it?
8. Click on "gas info." What is it?
9. Now try your hand at varying the conditions of the volcano and starting the eruption. Fill in the chart below.

Settings	Type of volcano	Type of eruption
low viscosity and low gas setting	Shield volcano	effusive
high viscosity and low gas setting	Domel volcano	slow
Low viscosity and high gas setting	Shield volcano	Hawaiian fire fount
high viscosity and high gas setting	Strato volcano	Plinian

Earth Science Wequest

part 1

1) The correlations are all along the plate boundaries. there is no relationship between the hot spots ^{except for ↗} and earthquakes

2) the black lines show the current shorelines

of all the present day landmasses.

The green area represents the outline of actual landmasses, including their under water portions.

3) Oceanic - continent subduction is

subduction of a cold dense oceanic

lithosphere plate beneath a continental

lithosphere plate.

A continental volcanic arc is where

the magma rises and erupts to form

a chain of volcanoes. ~~the~~ Examples

are the Andes of South America and

the Cascade Range of the north western

United States

b) Continent - continent collision is

the collision between two continental

plates. Some examples are

the Himalayan Mountains.

c) ocean-ocean subduction is subduction of a cold, dense oceanic lithosphere plate beneath another oceanic lithosphere plate. Some examples are ~~not an example~~ the San Andres fault. ^{i.e. Island arcs including Japan}

d) Continental rift is the activity that accompanies continental rifting or break-up. Some examples are Lake Tanganyika. ^{- this does not define continental rift.}

E) The mid-ocean ridge is the separation of two oceanic plates to form new oceanic lithosphere.

It is like a conveyor belt because plates move away from each other forming new crust and lithosphere. ^{what happens to the crust as it moves away}

F) Continental transform is two plates sliding past each other laterally. An example is San Andres fault.

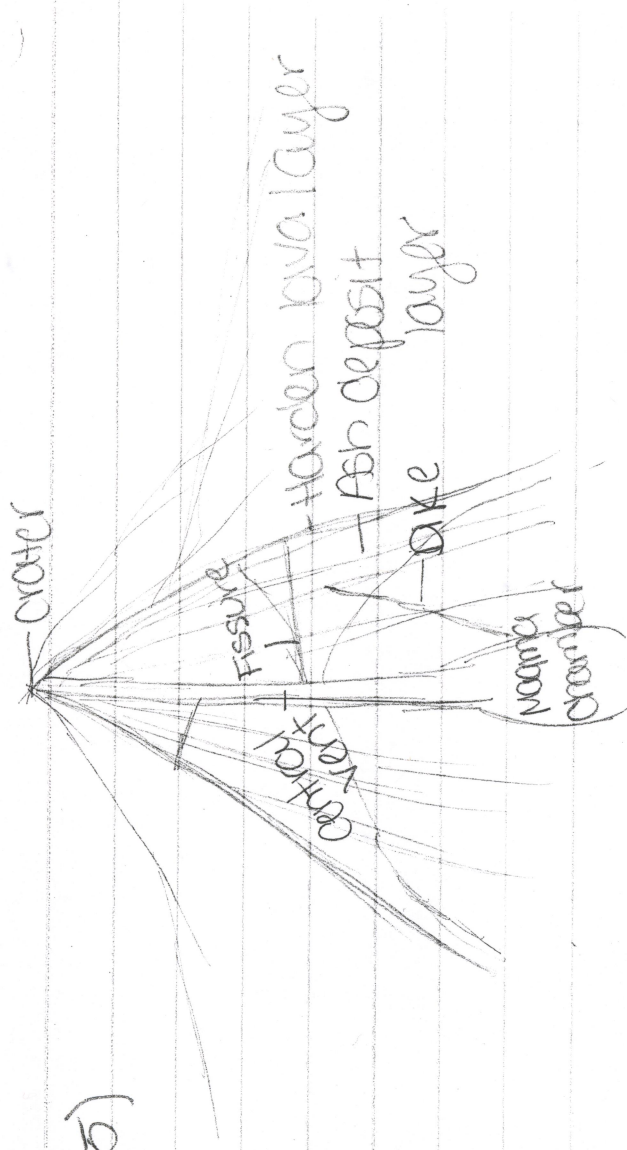
G) The oceanic transform is transform boundaries in ocean lithosphere are common along mid-ocean ridge segments. ^{ok but they are there pulling}

- 4) Oceanic hot spots are an area in which hot rock rises from deep in the mantle. Some examples are Hawaii.
- 5) The continental hot spots are hot spots that erupt into continental atmosphere may produce a wide variety of magma types, depending on what types of rock are melting. Some examples are the Yellowstone hot spot.

Part 2

- 1) Tectonic plates are large sections divided in the Earth's crust which fit together like a puzzle.
- 2) The rige of fire is the world's most active volcanic zone.
- 3) The layers within are the 'lower' **crust?** mantle, outer core and inner core.
- 4) The three types of volcanoes are stratovolcano; cinder cone and shield.

The stratovolcano is built from layers upon layer of mostly viscous magma. The cinder cone are built from piles of ejected fragments **steep sides**. Shield volcanoes are built from layer upon layer of fluid. (**broad & sloping**)



6) viscosity and gas factor in a volcano. because to see ^{ok} ^{also} factors ^{into shape} ^{of the volcano} how extreme the volcano is while erupting

7) viscosity is the magma thickness which ~~usually~~ ^{usually} indicates the amount of silica it contains.

8) Gas is the magma's gas content which usually depends on the amount of water and carbon dioxide dissolved within the flow